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ABSTRACT

Wage analyses of several government surveys suggest that substantial, broad-based reductions in real wages occurred in the final years of the 1980s recovery. (Data sources are the hourly compensation data from the Employment Cost Index series and wage data from the Current Population Survey.) The wages of those who lost the most in the 1980s (high school graduates, blue-collar workers, and men) have continued to fall in recent years. Groups who enjoyed wage gains in the 1980s (college graduates, white-collar workers, and most women) have been experiencing falling real wages since 1987. Available data show a decline in average hourly compensation that began in 1987. Average wages have fallen 6 percent since 1987. Data show the following trends: (1) the median hourly wage for men in 1991 was 2.6 percent less than in 1989 and 14 percent less than in 1979; (2) the 5.3 percent gain in the median hourly wage for women from 1979 to 1989 was nearly entirely reversed by the 4 percent reduction from 1989 to 1991; (3) in the final stages of the last recovery, the wages of college-educated, white-collar workers began falling; (4) among men, only those with advanced or professional degrees had growing wages; (5) wages for male high school graduates had severely declined, down 16.1 percent from 1979 to 1991; and (6) New England was the only region to experience wage growth in the 1980s, but most New England states are now experiencing sizable wage reductions. (Appendixes include information on data sources and computations and a news release.) (YLB)

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DECLINING WAGES FOR HIGH SCHOOL *AND* COLLEGE GRADUATES

Pay and Benefits Trends by Education, Gender, Occupation, and State, 1979-1991

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by Lawrence Mishel and Jared Bernstein

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Numerous studies have shown that there were dramatic shifts in the wage structure, sometimes characterized as rising wage inequality, in the 1980s.[1] The wage gap between more- and less-educated workers and between more- and less-experienced workers grew. Moreover, wage inequality among workers with similar education levels and work experience also grew. This rising wage inequality occurred at a time when average real wages were not growing. The result, therefore, was falling real wages for many groups of workers.

Most wage analyses have only tracked wage trends through 1987 or 1988. Thus, these analyses do not tell us about trends in the final years of the 1980s recovery or for the recession years. In this paper we present the results of our analysis of several government surveys that provide data through 1991 or through the first quarter of 1992 (for details see Appendix A). Thus, we are able to analyze wage trends for the pivotal period from 1987 to 1992 and compare them to trends in the 1970s and 1980s. These data provide the best clues as to what to expect in the current recovery and for the rest of the decade.

Our analysis shows that there were substantial, broad-based reductions in real wages in the final years of the 1980s recovery, before the onset of the current recession in 1990. These reductions persisted throughout the recession and there is every reason to expect them to continue through the anticipated anemic recovery. The wages of those who lost the most in the 1980s (high school graduates, blue-collar workers, and men) have continued to fall in recent years. What is new is that the groups who enjoyed wage gains in the 1980s (college graduates, white-collar workers, and most women) have been experiencing falling real wages since 1987.

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Specifically, we find:

- Average hourly compensation (inflation-adjusted, including all wages, salaries, and benefits) began falling in 1987, three years prior to the onset of the recession. The available data series show a decline in hourly compensation of from 2 to 5%. The Bush administration will be the first one in the post-war period where hourly compensation has declined.[2]
- Average wages have fallen 6% since 1987. Fringe benefits have not grown in this time period and, therefore, did not balance out the loss in wages.
- The median hourly wage for men in 1991 was 2.6% less than in 1989 and 14% less than in 1979.
- The 5.3% gain in the median hourly wage for women from 1979 to 1989 was nearly entirely reversed by the 4% reduction from 1989 to 1991. It is the decline in men's wages and not the gain in women's wages that is responsible for nearly all of the closing of the wage gap between men and women.
- In the final stages of the last recovery, the wages of college-educated, white-collar workers began falling. The wages of college graduates, for instance, fell 3.1% between 1987 and 1991, with a 4.9% decline among men and a 1.9% decline among women. White-collar wages fell more than 3% from 1987 to 1992.
- Among men, only those with advanced or professional degrees (a group comprising just 8% of all men) had growing wages. In other words, having a college degree no longer affords protection against falling wage trends. Young, male college graduates earned 5.1% less in 1991 than they did in 1979, with most of the drop occurring post-1987.
- There has been a severe decline in wages for male high school graduates, down 16.1% from 1979 to 1991. The wages of young high school graduates have deteriorated the most, with young, male and female high school graduates earning, respectively, 26.5% and 15.5% less in 1991 than their counterparts did in 1979.
- New England was the only region to experience wage growth in the 1980s, but most New England states are now experiencing sizeable wage reductions.

Our wage analysis is based on two sources that provide current data on wage trends. One source is the hourly compensation data for the first quarter of every year (since 1987) provided by the Bureau of Labor Statistics as part of its Employment Cost Index (ECI) series. The second source is the wage data from the government's Current Population Survey (CPS),

which is available through 1991. Most people are familiar with the CPS as the monthly source of labor force and unemployment data. We focus throughout on hourly pay (either hourly wages or hourly compensation) so that the "wage" trends we identify are solely due to changes in pay levels rather than of hours worked. All pay data have been converted to real dollars using a conservative measure of inflation -- the CPI-U-X1 (using another index would either not change our findings or show larger wage declines). Further information on data sources, definitions, and analysis is presented in Appendix A.

Trends in Average Wages, Benefits, and Compensation

Wage trends in recent years have frequently been characterized by rising wage inequality with slow or stagnant growth in average real wages (i.e., wages compared in inflation-adjusted dollars). *This is no longer the case.* Starting in 1987, three years before the current recession, the growth in average hourly wages and in hourly compensation (including wages, benefits, and payroll taxes), began falling behind inflation.

The data in Table 1 provides up-to-date information on wage and compensation trends from two different sources of data. The Bureau of Labor Statistics data on employer compensation costs is available back to the first quarter of 1987, and shows a 7.0% fall in private sector hourly wages (see column 2).[3] This represents more than an $0.82 per hour fall in the average wage over the last five years. Overall, employers' costs for private sector hourly compensation (see column 6) have fallen 5.4%. This fall in hourly compensation is confirmed by the second measure of hourly compensation (see column 7), which shows a 2.1% fall from 1987 through 1992.[4]

It is important to note that this overall decline in compensation began *before* the onset of the recession which started in mid-1990. Between early 1987 and early 1990 real hourly compensation fell from 2.1% to 2.7% (columns 7 and 6, respectively) and hourly wages fell 3.6%. It is also noteworthy that this recent decline in real hourly compensation reverses the prior trend of very modest growth in real hourly compensation. Using the only available historical series -- the BLS productivity series -- real hourly compensation has *fallen* at a log annual rate of 0.3% per year since 1987, compared to the 0.7% growth in the earlier part of the recovery between 1983 and 1987, the stagnation, or 0.1% annual growth, in the 1979 to 1983 downturn, and the 1.3% growth over the 1973 to 1979 business cycle.

Table 1
Change in Real Hourly Compensation, 1987-92

	BLS Employment Cost Levels*						BLS Productivity Series
	Real Wage and Salaries Per Hour		Real Health and Pensions Costs Per Hour		Real Compensation** Per Hour		Real Nonfarm Business Hourly Compensation
	(1) Dollars ($1991)	(2) Index (1987=100)	(3) Dollars ($1991)	(4) Index (1987=100)	(5) Dollars ($1991)	(6) Index (1987=100)	(7) Index (1987=100)
1987:1	$13.37	100.0	$1.45	100.0	$16.19	100.0	100.0
1988:1	13.14	98.3	1.43	98.6	16.01	98.9	99.8
1989:1	12.98	97.1	1.41	97.2	15.81	97.7	99.5
1990:1	12.89	96.4	1.44	99.7	15.75	97.3	97.9
1991:1	12.55	93.9	1.45	100.2	15.40	95.1	97.8
1992:1***	n.a.	93.0	n.a.	n.a.	n.a.	94.6	97.9

* Based on levels of private sector employer costs from BLS Employment Cost Index (ECI) series.
** Total compensation is wages and salaries plus health and pensions costs plus payroll taxes (not shown).
*** Estimates. See Appendix A for details.

Some analysts have presumed that fringe benefit growth in recent years has balanced declining wages leaving overall compensation growing slowly. This reasoning seems plausible since it is well known that health care costs have been rising rapidly and it is believed that fringe benefits comprise a large share of total compensation, perhaps as high as 40 to 45%.

In fact, however, benefits are not as important in the overall compensation package as many people believe, nor have benefits been rising rapidly in recent years. The data in Table 1 (columns 3 and 4) show that the cost of fringe benefits, measured as employer pension and insurance costs per hour, have not grown in recent years and that they comprise less than 10% of the total compensation package.

It is certainly true that health insurance costs have risen quickly. Apparently, however, the rapid growth of jobs with little or no employer provided health benefits and the increased shift of employer health care costs onto employees has meant that average fringe benefit costs have not risen since 1987. In fact, fringe benefits grew slowly, approximately 0.3% a year, in the 1979-1988 period.[5]

Part of the confusion about the role of fringe benefits is definitional. In surveys of employers by trade associations and by BLS, fringe benefits are broadly defined (following

standard corporate accounting procedures) to include paid leave (holidays and vacations), supplemental pay (overtime and shift premiums), and payroll taxes (employer social security and unemployment taxes). Under this broad definition, benefits do comprise about 28% of total compensation costs. However, wage-related items that are received by workers in their regular paychecks, such as paid leave and supplemental pay, are defined as wages in the CPS and, therefore, are accounted for in most wage studies. Taking account of pension and insurance costs, given their small size and slow growth, would not substantively alter the picture emerging from recent wage studies.

In sum, Table 1 provides data from two independent (from each other) government surveys that show that hourly compensation has been declining since 1987. As we discuss below, our analysis of CPS wage data -- a third independent source of information -- shows significant real wage reductions in recent years as well. All of the available evidence thus points in the same direction -- a steady decline in wages and compensation in recent years.

Wage Trends by Wage Level

For any given trend in average wages, there will be different outcomes for particular groups of workers if wage inequality rises (or falls), as it most certainly has in recent years. Table 2 provides data on wage trends for workers at different points (or levels) in the wage distribution, thus allowing us to characterize wage growth for low-, middle-, and high-wage earners. The data are presented for the cyclical peak years of 1979, 1989, and for the most recent year, 1991.

These data show that the deterioration in real wages was both broad and uneven. The breadth of falling real wages is clear from the fact that wages fell for the bottom 80% of the workforce. The only group exempt from wage decline was those people at the very top of the earnings scale (e.g. wages at the 90th percentile -- not shown in the table -- did rise 2.5% from 1979 to 1989).

The overall pattern of wage growth since 1979 has been that a group's wages fell more the lower the group's wage, with wages falling by 11.8% at the 20th percentile and by 3.6% at the 80th percentile. The wage of the median worker, who earned more than half the workforce but also less than half the workforce, fell 4.9% from 1979 to 1989 and fell 2.5% from 1989 to 1991.

Table 2
Change in Real Hourly Wages
by Wage Level, 1979-91

Percentile	Real Hourly Wage ($1991)**			Percent Change		
	1979	1989	1991	1979-89	1989-91	1979-91
ALL						
20th	$6.52	$5.78	$5.75	-11.4%	-0.5%	-11.8%
40th	8.96	8.33	8.00	-7.1	-4.0	-10.8
Median (50th)*	10.23	9.73	9.48	-4.9	-2.5	-7.3
60th	11.65	11.12	10.99	-4.5	-1.2	-5.6
80th	16.02	15.96	15.45	-0.4	-3.2	-3.6
MEN						
20th	$7.94	$6.67	$6.42	-15.9%	-3.8%	-19.2%
40th	11.16	9.73	9.25	-12.9	-4.9	-17.1
Median (50th)*	12.59	11.12	10.83	-11.7	-2.6	-14.0
60th	13.98	13.33	12.50	-4.6	-6.3	-10.6
80th	18.60	17.83	17.49	-4.1	-1.9	-6.0
WOMEN						
20th	$5.77	$5.39	$5.15	-6.6%	-4.5%	-10.8%
40th	7.07	7.20	7.00	1.7	-2.7	-1.0
Median (50th)*	7.91	8.33	8.00	5.3	-4.0	1.1
60th	8.97	9.45	9.40	5.4	-0.6	4.9
80th	11.64	13.33	13.00	14.6	-2.5	11.7

* The median worker is one who earns both more and less than half the workforce.
** The overall hourly wage measures the wages of all wage and salary earners, whether paid by the hour or weekly, per hour of work.

This overall picture, however, masks somewhat different outcomes for men and women. Among men, wages have fallen more and at all parts of the wage distribution. In the middle, the median male hourly wage fell 11.7% between 1979 and 1989 and a total of 14% between 1979 and 1991. Even high-wage men experienced a significant 6.0% wage decline over the twelve-year period, with the rate of decline accelerating after 1989. Wages among low-wage men fell the most (19.2%). These data thus show significant wage deterioration for nearly all men, with the bottom 60% of men suffering more than a 10% wage reduction since 1979.

The only significant wage growth between 1979 and 1989 appears to have been among higher-wage women. For instance, wages at the 80th percentile grew 14.6%. Even at the median, wages grew by 5.3%. Among women in the bottom 40%, however, wage growth was either minimal or negative.

One of the surprising stories emerging from these data is that the wages of both men and women have fallen across the board since 1989. In the process, nearly the entire 5.3% wage gain for the median woman over the ten years from 1979 to 1989 was reversed by the 4% drop from 1989 to 1991.

The broad wage declines since 1989 have been larger among men than women. Among better-paid men the wage decline from 1989 to 1991 has been rapid, with the 1.9% fall at the 80th percentile roughly equivalent to half the fall over the entire 1979 to 1989 period for this group. The wage reduction of 6.3% from 1989 to 1991 at the 60th percentile far exceeded the 4.6% decline over the prior ten years. The recent decline in wages among better-paid workers, male and female, reflects the declining wages among college-educated and white-collar workers discussed below.

Last, it is worthwhile putting the wage gains made by women into perspective. The rapid wage gain among more highly paid women is one of the few laudatory wage trends to emerge in the 1980s. It should be noted, however, that the closing of the gender wage gap among the bottom 60% is due more to men's wages falling than to any rise in women's wages. Moreover, the wages of higher-wage women are still low relative to men. For instance, a woman at the 80th percentile in 1991 was paid $13.00, just slightly higher than what the median male was paid in 1979, $12.59.

Wages by Education Level

In the 1980s, the wages of workers with more education grew more than the wages of less-educated workers. These trends have led to a growth in the wage gap between, for instance, college-educated and high school-educated workers.

Our analysis modifies and updates this view in several important ways. Because prior studies have combined workers with four years of college with those with advanced or professional degrees, they obscured the fact that nearly all of the wage growth among "college-educated" workers was among those with more than four years of college. This is especially true for men. Equally troublesome, the real wages of those with four years of college have been falling since 1987, especially for men and for younger men and women.

Table 3 presents wage trends by gender and education level. The data show, as the usual story goes, that the wages of "less-educated" workers -- high school graduates or dropouts -- declined and the wages of the "more-educated" college graduates grew. The usual terminology of the "less-educated" and "more-educated" turns out to be somewhat

Table 3
Change in Real Hourly Wages
by Education Level, 1979-91

Years of Schooling	Share of 1989 Employment	Percent Change in Real Wage** 1979-89	1989-91	1979-91
ALL				
Less than HS	13.8%	-17.3%	-3.9%	-20.5%
High School (HS)	40.5	-9.8	-2.2	-11.8
1-3 Years College	22.3	-5.9	-1.2	-6.9
4 Years College	14.0	2.0	-1.6	0.3
College Plus 2 Years	6.9	7.6	0.2	7.8
All	100.0	-2.7	-0.9	-3.6
MEN				
Less than HS	15.9%	-18.2%	-6.2%	-23.2%
High School (HS)	38.7	-12.7	-3.8	-16.1
1-3 Years College	20.9	-8.3	-1.4	-9.5
4 Years College	14.2	0.3	-2.6	-2.3
College Plus 2 Years	7.8	9.8	0.3	10.2
All*	100.0	-5.1	-2.1	-7.1
WOMEN				
Less than HS	11.3%	-12.0%	1.2%	-11.0%
High School (HS)	42.6	-2.9	0.1	-2.9
1-3 Years College	23.8	4.3	-0.8	3.5
4 Years College	13.8	12.7	0.8	13.6
College Plus 2 Years	5.9	12.5	0.6	13.2
All*	100.0	6.7	1.1	7.9

* Includes those with college plus one year of schooling although not shown separately.
** See Table 2 for definition.

misleading. Given that workers with some college education (one to three years) also experienced falling real wages, it is apparent that the "less-educated" group with falling wages comprises more than three-fourths of the workforce. Moreover, the "college-educated" group that did well consists of those with just four years of college who enjoyed a minimal 2% wage gain from 1979 to 1989 as well as the more-educated (college plus at least two years more of schooling), but smaller, group that enjoyed better wage growth.

Perhaps the most important new development is that the real wages of college graduates have begun to fall. From 1989 to 1991 the wages of college graduates fell 1.6%, with male college graduates losing 2.6% and female college graduates gaining 0.8%. *This trend predates the recession,* as can be seen in Figures 1 and 2 and Appendix Table B1. The

Table 4
Change in Real Hourly Wages of High School Graduates
With One to Five Years Experience, 1979-1991

	Percent Change in Real Wage*		
	1979-1989	1989-1991	1979-1991
All	-18.5%	-4.4%	-22.1%
White	-18.4	-4.0	-21.7
Black	-21.0	-2.5	-22.0
Hispanic	-12.8	-7.9	-19.7
Men	-22.3%	-5.4%	-26.5%
White	-22.1	-4.5	-25.6
Black	-23.8	-5.1	-27.6
Hispanic	-16.8	-11.0	-25.9
Women	-12.9%	-3.0%	-15.5%
White	-12.4	-3.4	-15.4
Black	-16.8	0.0	-16.7
Hispanic	-6.7	-3.3	-9.7

* See Table 2 for definition. White and Black samples exclude Hispanics.

real wages of college-educated men have been falling since 1987, dropping 5% from 1987 to 1991. Among men, the only group with wage gains was the 7.8% of the workforce with education beyond college, whose wages grew a modest 1.2% from 1987 to 1991. Among women, wages fell for high school graduates and dropouts and rose for those with college degrees or more.

The lack of wage growth among college graduates from 1979 to 1991, at least among men, means that college graduates have not recovered from their losses suffered in the 1970s when a large surplus of baby-boomer college graduates prevailed. From 1973 to 1979 the hourly wage among all college graduates fell roughly 11%. The failure of the wages of male college graduates to grow since 1979 has meant a cumulative real wage decline of 12.1% from 1973 to 1991. Among female college graduates, despite significant wage gains since 1979, wages were 1% below their 1973 levels in 1991 (See Appendix Table B1).

The wage trends among young workers are both more dramatic and more troublesome. We examine trends in "entry-level wages" for high school and college graduates in Tables 4 and 5. We measure the "entry-level wage" as the average wage of workers with from one to five years experience.

Figure 1
Real Average Hourly Wages of Men, by Education Level, 1987-1991

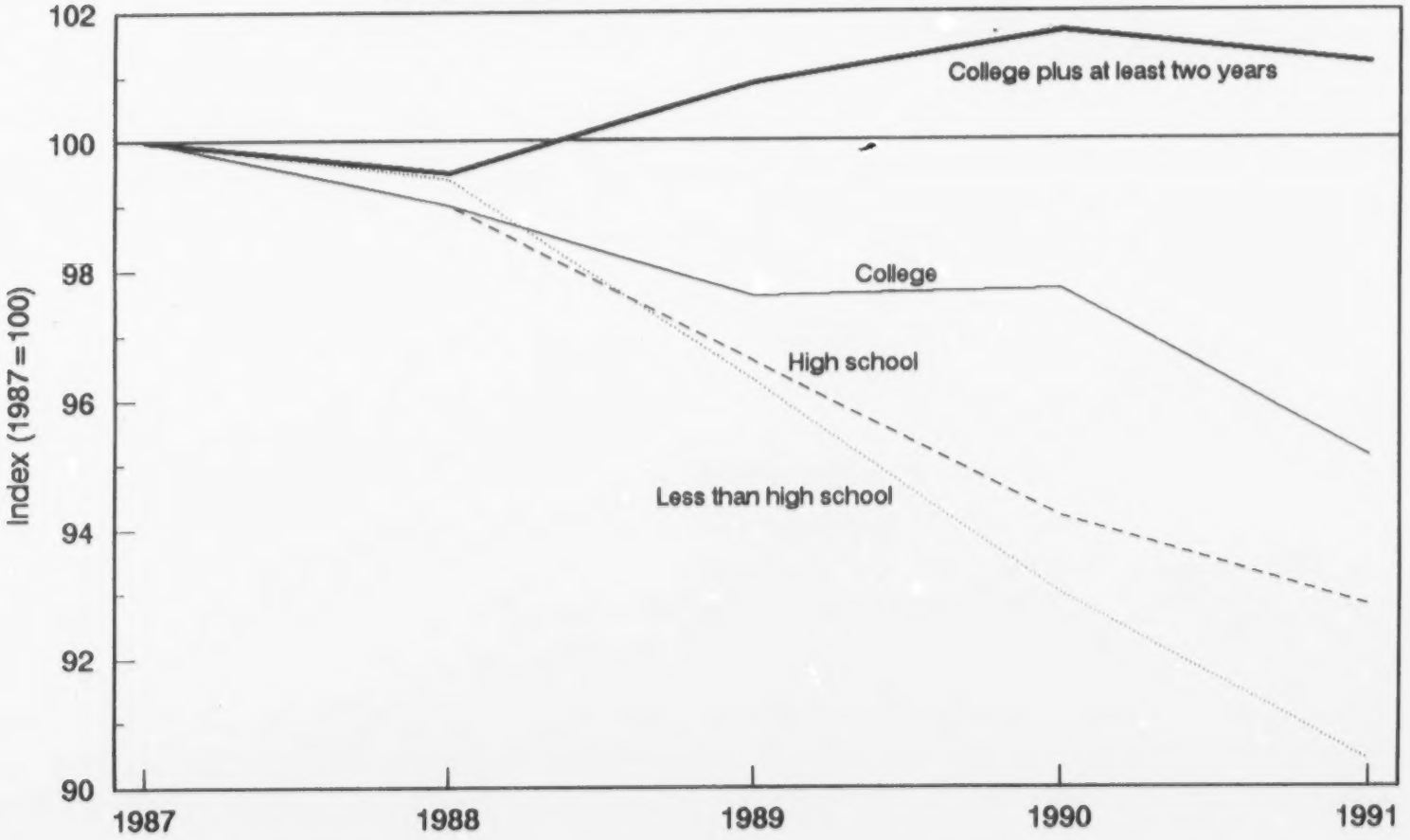

Figure 2
Real Average Hourly Wages of Women, by Education Level, 1987-1991

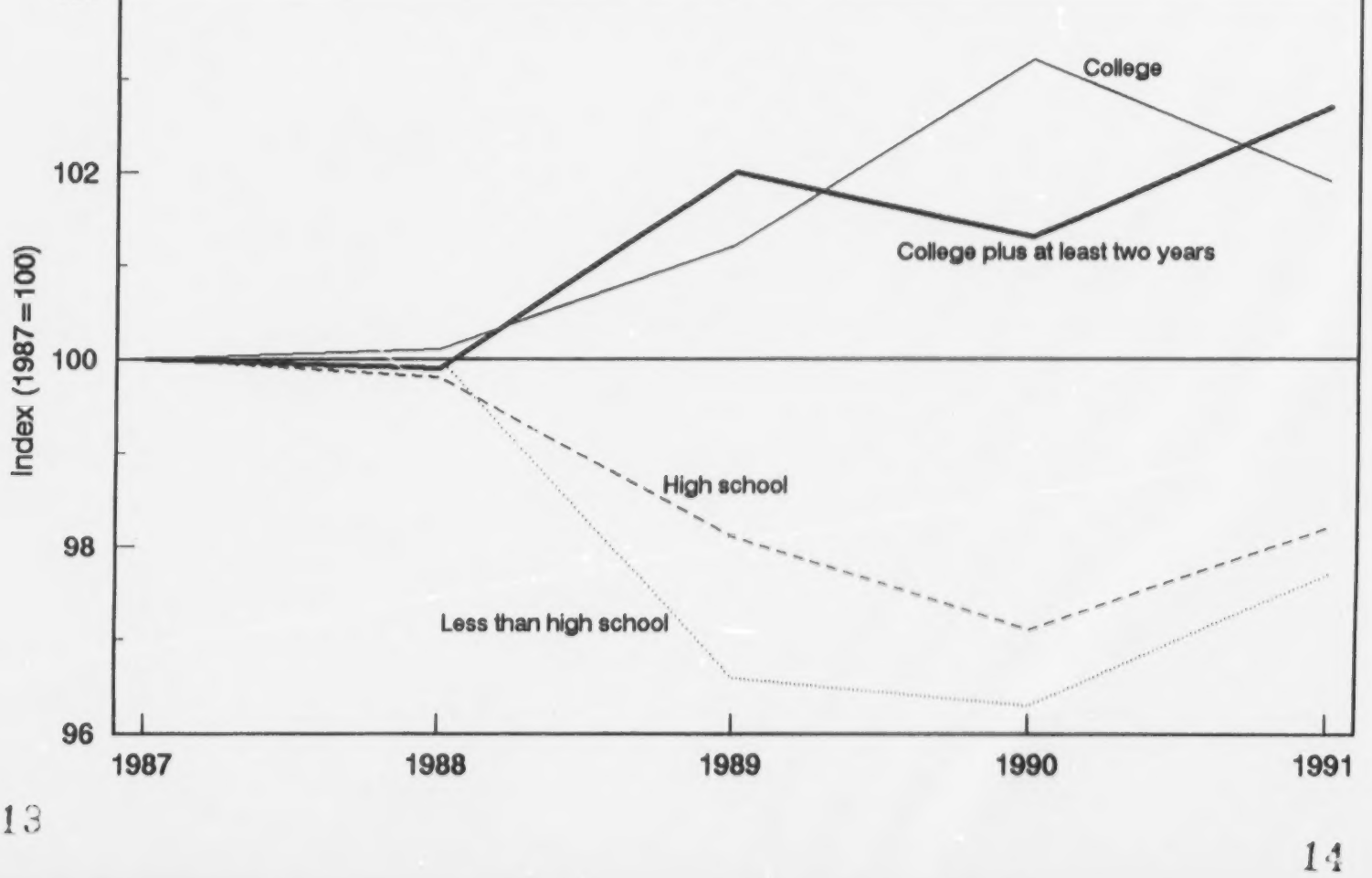

Table 5
Change in Real Hourly Wages of College Graduates with One to Five Years Experience, 1979-1991

	Percent Change in Real Wages**		
	1979-89	1989-91	1979-91
All	2.8%	-2.9%	-0.2%
White	3.0	-3.0	-0.7
Black	0.8	-2.3	-3.2
Hispanic	-7.2	-8.1	-14.7
Men	-2.4%	-2.8%	-5.1%
White	-1.6	-2.5	-4.1
Black	-6.4	-0.8	-5.7
Hispanic	*	*	*
Women	9.9%	-2.8%	6.8%
White	10.0	-3.5	6.2
Black	6.0	3.6	9.8
Hispanic	*	*	*

* Sample size too small for statistical reliability.
** See Table 2 for definition. Sample includes those with sixteen years of completed schooling. White and Black samples exclude Hispanics.

The earning power of high school graduates has been severely reduced over the last decade or so (see Table 4). Between 1979 and 1991, the entry-level wage for high school graduates fell 26.5% for men and 15.5% for women. It is important to note that this severe reduction in entry-level wages has occurred for each racial/ethnic group. A multitude of studies have shown that these wage declines are the result of the shift towards lower-paying industries, the lower value of the minimum wage, less unionization, and other characteristics of the jobs available to young workers. There is also consensus among the studies that these wage declines do not reflect a deterioration in school quality.[6]

Table 5 shows that entry-level wages for college graduates grew modestly from 1979 to 1989 (2.8%), but that the gain was reversed in the last two years. The wages of a young, male college graduate were 2.4% less in 1989 than in 1979, with an additional fall of 2.8% from 1989 to 1991. Perhaps more surprising, the entry-level wage of women college graduates has been falling since 1989 as well.

Our analysis revealed that the entry-level wage for college graduates began falling in 1987, driven by the drop among men. For instance, the entry-level college wage for

men fell 2.2% from 1987 to 1989 for a cumulative 4.9% drop from 1987 to 1991 (see Appendix Table B2).

Entry-level wages are lower now than in 1987 for both young men and young women, regardless of whether they had a college degree or just a high school degree. These wage developments do not appear to be some market correction to the growing wage gap between high school and college graduates over the 1980s. Data on the employment share of college graduates do not show any expansion of supply that could be driving down the "college wage" (see Appendix Tables B1 and B2). In fact, since 1987 the relative growth of college-educated workers has been slower than in the period of rising college wages from 1979 to 1987. Most persuasive, however, is that the growth of the college workforce has been especially slow among entry-level workers and among men, whose college wage has fallen the most. Nevertheless, there is still a growing disparity between college and high school wages, despite the fact that the college wage is deteriorating.

The entry-level, college wage also fell in the 1970s in response to a surplus of college graduates. Among men, this means that new college graduates in 1991 were earning 10.9% less than their counterparts in 1973. In that same time period, 1973 to 1991, the entry-level college wage for women fell 6.8% (see Appendix Table B2).

Wage Trends for Blue- and White-Collar Workers

When wage trends are examined by occupation, the same type of story emerges as we have seen earlier. The groups that were big losers in the 1980s, such as blue-collar workers, are continuing to lose ground, but are now being joined by groups, such as white-collar workers, who fared well in the 1980s.

Blue-collar wages have fallen 8.6% over the five years since the start of 1987 (see Table 6). The new development is that white-collar wages, which rose through most of the 1980s, are now in decline, falling 5.1% since early 1987. The pay of both white- and blue-collar workers has also fallen when measured in hourly compensation.[7] Again, we see that the pay of a previously privileged group -- white-collar workers -- began to decline several years before the current recession.

Table 6
Change in Real Hourly Wages and Compensation by Occupation, 1987-1992

Year	Real Wages & Salaries Per Hour: Dollars ($1991)	Real Wages & Salaries Per Hour: Index (1987=100)	Real Compensation Per Hour: Dollars ($1991)	Real Compensation Per Hour: Index (1987=100)
		White Collar*		
1987:1	$15.79	100.0	$18.77	100.0
1988:1	15.54	98.4	18.54	98.8
1989:1	15.37	97.3	18.35	97.8
1990:1	15.46	97.9	18.52	98.7
1991:1	15.10	95.6	18.15	96.7
1992:1**	n.a.	94.9	n.a.	96.0
		Blue Collar*		
1987:1	$12.87	100.0	$16.20	100.0
1988:1	12.70	98.7	16.10	99.4
1989:1	12.53	97.3	15.89	98.1
1990:1	12.04	93.5	15.34	94.7
1991:1	11.82	91.8	15.15	93.5
1992:1**	n.a.	91.4	n.a.	94.2

* Based on levels of employers costs from BLS Employment Cost Index (ECI) series.
** Estimates. See Appendix A for details.

Wage Trends by State

Since our country has very diverse and sub-regional economies, one might expect very different wage trends to emerge. In fact, however, real wages have declined for men in nearly each state and region in the country over the last twelve years (see Table 7). The median hourly wage for men fell by more than the national average of 14% in a wide range of states, including: Pennsylvania (–15.4%), Wisconsin (–19.1%), North Dakota (–24.3%), Alabama (–19.5%), Utah (–21.9%), and Oregon (–21.7%). The only places where male wages did not decline from 1979 to 1989 were selected states in the New England region and South Carolina. However, in all but a few (South Carolina, Connecticut, and Maine) of the states that experienced rising wages in the 1980s, there were significant real wage declines from 1989 to 1991. In Massachusetts, for instance, the median male wage grew by 9.8% between 1979 and 1989 only to fall by 6.0% from 1989 to 1991. Once again, the bright spots have dimmed.

Table 7
Inflation-Adjusted Changes in Wages and Salaries per Hour
For Men By State, 1979-1991

	Change in Real Median Hourly Wage*					
	1979-1989		1989-1991		1979-1991	
Region/State	Dollars ($1991)	Percent	Dollars ($1991)	Percent	Dollars ($1991)	Percent
NATIONAL	-$1.48	-11.7%	-$0.29	-2.6%	-$1.77	-14.0%
NEW ENGLAND						
Maine	0.25	2.5	0.05	0.5	0.30	3.0
New Hampshire	1.74	15.6	-0.46	-3.5	1.29	11.5
Vermont	0.48	4.9	-0.34	-3.3	0.14	1.4
Massachusetts	1.19	9.8	-0.80	-6.0	0.39	3.2
Rhode Island	-0.52	-4.4	0.53	4.8	0.01	0.1
Connecticut	1.07	8.3	0.02	0.2	1.09	8.5
MID-ATLANTIC						
New York	-0.13	-1.0	-0.46	-3.6	-0.59	-4.6
New Jersey	0.33	2.4	-0.84	-6.1	-0.51	-3.8
Pennsylvania	-1.88	-14.4	-0.13	-1.2	-2.01	-15.4
EAST NORTH CENTRAL						
Ohio	-1.83	-14.1	-0.21	-1.9	-2.04	-15.7
Indiana	-2.04	-16.2	-0.05	-0.5	-2.09	-16.6
Illinois	-1.77	-12.6	-0.25	-2.1	-2.02	-14.4
Michigan	-1.35	-9.7	-0.62	-4.9	-1.98	-14.1
Wisconsin	-1.49	-11.3	-1.03	-8.8	-2.52	-19.1
WEST NORTH CENTRAL						
Minnesota	-2.39	-17.7	-0.12	-1.1	-2.51	-18.6
Iowa	-1.96	-15.9	-0.34	-3.3	-2.30	-18.7
Missouri	-2.33	-18.3	-0.43	-4.1	-2.75	-21.6
North Dakota	-2.29	-19.0	-0.63	-6.5	-2.92	-24.3
South Dakota	-1.74	-16.6	-0.41	-4.7	-2.15	-20.5
Nebraska	-1.45	-13.0	-0.23	-2.4	-1.68	-15.0
Kansas	-1.22	-10.4	-0.56	-5.3	-1.79	-15.2
SOUTH ATLANTIC						
Delaware	-1.20	-9.0	-0.83	-6.9	-2.03	-15.3
Maryland	-1.39	-10.0	-0.23	-1.9	-1.62	-11.7
District of Columbia	-2.48	-17.9	0.27	2.3	-2.22	-16.0
Virginia	0.27	2.3	-1.05	-8.7	-0.78	-6.6
West Virginia	-3.29	-24.9	-0.36	-3.6	-3.65	-27.7
North Carolina	-0.27	-2.7	0.05	0.6	-0.21	-2.2
South Carolina	0.14	1.5	0.30	3.1	0.43	4.6
Georgia	-0.25	-2.4	-0.55	-5.3	-0.80	-7.5
Florida	0.12	1.2	-0.94	-9.4	-0.82	-8.3

Changes in Real Hourly Wages*

Table 7 *(continued)*

Region/State	Change in Real Median Hourly Wage* 1979-1989 Dollars ($1991)	1979-1989 Percent	1989-1991 Dollars ($1991)	1989-1991 Percent	1979-1991 Dollars ($1991)	1979-1991 Percent
EAST SOUTH CENTRAL						
Kentucky	-1.78	-15.0	-0.38	-3.8	-2.16	-18.3
Tennessee	-1.62	-14.8	-0.37	-4.0	-1.99	-18.2
Alabama	-1.32	-11.8	-0.87	-8.8	-2.18	-19.5
Mississippi	-1.24	-13.2	0.16	2.0	-1.08	-11.4
WEST SOUTH CENTRAL						
Arkansas	-0.58	-6.4	-0.05	-0.6	-0.63	-6.9
Louisiana	-1.24	-10.9	-1.26	-12.4	-2.50	-21.9
Oklahoma	-2.10	-17.4	-0.06	-0.6	-2.16	-17.9
Texas	-1.66	-14.3	-0.21	-2.1	-1.87	-16.0
MOUNTAIN						
Montana	-2.70	-21.2	-0.51	-5.1	-3.21	-25.2
Idaho	-2.66	-21.5	0.27	2.8	-2.39	-19.3
Wyoming	-2.86	-20.4	-0.21	-1.9	-3.07	-21.9
Colorado	-2.31	-16.6	-0.08	-0.7	-2.38	-17.2
New Mexico	-2.08	-17.5	0.00	0.0	-2.08	-17.5
Arizona	-1.97	-15.5	-0.70	-6.6	-2.67	-21.1
Utah	-1.72	-13.5	-1.09	-9.8	-2.81	-21.9
Nevada	-0.89	-7.1	-0.49	-4.2	-1.38	-11.0
PACIFIC						
Washington	-2.54	-17.1	0.18	1.5	-2.36	-15.9
Oregon	-2.61	-18.7	-0.42	-3.7	-3.03	-21.7
California	-1.69	-12.1	-0.34	-2.8	-2.03	-14.6
Alaska	-4.93	-24.0	-0.18	-1.2	-5.11	-24.9
Hawaii	-0.54	-4.2	-0.45	-3.6	-0.99	-7.7

* Change in the median hourly wage, including all wages and salaries, for all civilian wage and salary earners aged 18-64. EPI analysis of Bureau of Labor Statistics Earnings files for 1979, 1989, 1991 and converted to 1991 dollars using the CPI-U-X1.

Table 8
Inflation-Adjusted Changes in Wages and Salaries per Hour
For Women By State, 1979-1991

Region/State	Change in Real Median Hourly Wage*					
	1979-1989		1989-1991		1979-1991	
	Dollars ($1991)	Percent	Dollars ($1991)	Percent	Dollars ($1991)	Percent
NATIONAL	$0.43	5.4%	-$0.33	-4.0%	$0.10	1.2%
NEW ENGLAND						
New Hampshire	1.48	20.0	-0.14	-1.5	1.35	18.2
Vermont	1.30	18.6	-0.14	-1.6	1.16	16.6
Massachusetts	1.77	21.7	0.03	0.3	1.80	22.0
Rhode Island	0.81	10.9	0.07	0.9	0.88	11.8
Connecticut	1.52	18.1	0.07	0.7	1.59	19.0
MID-ATLANTIC						
New York	1.02	12.1	0.18	1.9	1.20	14.2
New Jersey	1.78	21.7	-0.01	-0.1	1.77	21.6
Pennsylvania	0.00	0.0	0.12	1.5	0.12	1.5
EAST NORTH CENTRAL						
Ohio	-0.06	-0.8	-0.11	-1.4	-0.17	-2.2
Indiana	-0.20	-2.7	-0.21	-2.9	-0.41	-5.5
Illinois	-0.24	-2.7	-0.12	-1.4	-0.36	-4.1
Michigan	-0.62	-7.1	-0.10	-1.2	-0.71	-8.2
Wisconsin	-0.49	-6.1	-0.06	-0.7	-0.55	-6.8
WEST NORTH CENTRAL						
Minnesota	0.42	5.3	0.11	1.3	0.53	6.7
Iowa	-0.48	-6.3	-0.17	-2.3	-0.65	-8.5
Missouri	0.05	0.7	-0.23	-3.1	-0.18	-2.4
North Dakota	-0.08	-1.1	-0.36	-5.2	-0.44	-6.3
South Dakota	-0.12	-1.8	0.08	1.3	-0.03	-0.5
Nebraska	-0.41	-5.6	0.11	1.6	-0.30	-4.1
Kansas	0.03	0.4	-0.01	-0.1	0.03	0.3
SOUTH ATLANTIC						
Delaware	0.60	7.6	0.11	1.3	0.72	9.0
Maryland	0.57	6.5	0.49	5.3	1.07	12.1
District of Columbia	0.76	7.9	-0.60	-5.8	0.16	1.6
Virginia	0.89	11.9	-0.02	-0.2	0.87	11.6
West Virginia	-0.35	-4.9	-0.42	-6.3	-0.77	-11.0
North Carolina	0.43	6.1	-0.26	-3.6	0.16	2.3
South Carolina	0.09	1.4	0.11	1.5	0.20	2.9
Georgia	0.37	5.0	0.22	2.8	0.59	7.9
Florida	0.78	11.2	-0.27	-3.4	0.51	7.4

Table 8 *(continued)*

Region/State	Change in Real Median Hourly Wage* 1979-1989 Dollars ($1991)	1979-1989 Percent	1989-1991 Dollars ($1991)	1989-1991 Percent	1979-1991 Dollars ($1991)	1979-1991 Percent
	($1991)	Percent	($1991)	Percent	($1991)	Percent
EAST SOUTH CENTRAL						
Kentucky	-0.43	-5.8	-0.30	-4.2	-0.73	-9.8
Tennessee	-0.01	-0.2	0.06	0.9	0.05	0.7
Alabama	0.15	2.3	-0.32	-4.8	-0.17	-2.6
Mississippi	0.22	3.5	-0.21	-3.3	0.01	0.1
WEST SOUTH CENTRAL						
Arkansas	-0.10	-1.5	-0.41	-6.1	-0.51	-7.6
Louisiana	-0.26	-3.7	0.17	2.6	-0.09	-1.3
Oklahoma	-0.30	-4.1	-0.04	-0.5	-0.34	-4.6
Texas	0.33	4.5	-0.25	-3.3	0.08	1.1
MOUNTAIN						
Montana	-0.47	-6.3	-0.23	-3.3	-0.69	-9.4
Idaho	-0.22	-3.0	-0.26	-3.8	-0.48	-6.7
Wyoming	-1.09	-13.7	0.08	1.2	-1.01	-12.7
Colorado	0.00	0.0	-0.34	-4.1	-0.34	-4.0
New Mexico	-0.41	-5.6	-0.20	-2.9	-0.61	-8.3
Arizona	0.12	1.5	0.44	5.5	0.56	7.1
Utah	-0.04	-0.5	-0.42	-5.4	-0.46	-5.9
Nevada	0.33	4.1	-0.34	-4.1	-0.01	-0.2
PACIFIC						
Washington	-0.26	-2.8	0.13	1.4	-0.13	-1.4
Oregon	-0.01	-0.1	-0.16	-1.9	-0.17	-2.0
California	0.34	3.8	0.07	0.8	0.41	4.5
Alaska	-1.44	-11.4	-0.63	-5.6	-2.07	-16.4
Hawaii	0.70	8.4	-0.04	-0.4	0.66	7.9

* Change in the median hourly wage, including all wages and salaries, for all civilian wage and salary earners aged 18-64. EPI analysis of Bureau of Labor Statistics Earnings files for 1979, 1989, 1991 and converted to 1991 dollars using the CPI-U-X1.

Among women, the median wage grew in most states over the 1980s, with the New England and Mid-Atlantic regions leading the wage growth (see Table 8). However, as we have seen earlier, the post-1989 decline in wages has wiped out much, if not all, of the wage gains made by women in the earlier years.

Conclusion

The data presented in this paper suggest that starting in 1987, wage trends shifted into a new phase which was characterized by falling average real wages and benefits and real wage reductions for various groups -- college-educated and white-collar workers, and women with wages near the median -- that had previously experienced wage gains. Moreover, entry-level wages for young workers, whether male or female or with or without a college degree, have been eroding since 1987. These new developments add to the economic losses suffered by the continuing wage deterioration for men with less than a college degree (comprising three-fourths of all employed men); for high school graduates, men or women; and, for blue-collar workers. The only groups to still enjoy rising wages are men with advanced, or graduate, educations (at least two years beyond college), and women with at least some college education.

These developments *preceded* the onset of the recession or even the rise in unemployment that began in 1989. In fact, these broad-based wage reductions probably helped to cause the recession by curtailing consumer incomes. Further, they may be the primary cause of the very low levels of consumer confidence felt during this relatively mild recession.

It appears that the collapse of several important white-collar industries such as banking, finance, and real estate, and the more generalized pressure on white-collar wages and employment resulting from the "restructuring" in manufacturing and retail trade, have added new groups to the already considerable set of downwardly mobile workers. Not having been caused by the recession, these trends can be expected to continue despite a recovery in the economy, especially because growth has been and is expected to be slow, and unemployment will remain high for several more years.

These wage trends also suggest that expectations of an explosion of skilled technical and white-collar jobs in the 1990s will not materialize. Mishel and Teixeira (1991) have shown that the expected growth of white-collar employment in the 1990s will be at a pace about one-third that of the previous two decades. The recent decline in the wages of college-

educated workers and especially the decline of entry-level wages for young, male and female college graduates confirms that the growth in employer demand for college graduates has been slowing since 1987.

The central problem facing the economy is the challenge to create a broad base of opportunities which provide decent middle-income earnings and a rising standard of living. The opposite is taking place. Over the last twelve years the earnings power of the vast majority of the workforce has been severely curtailed. The possibilities for young workers to earn high wages have been severely diminished. As we have seen, the wages of entry-level male high school graduates -- black, white, and Hispanic -- are now 26% lower than in 1979.

With entry-level wages of college graduates falling and a general decline in white-collar wages, it is increasingly difficult to see our economy as one where the workforce is moving up some "income ladder." True, it still (and increasingly) makes economic sense for individual young people to move up the educational ladder, since more-educated workers have greater earning potential and slower wage decline. But, it is increasingly difficult to be indifferent to the loss of good, blue-collar jobs on the basis that there is an offsetting expansion of well-paying technical or professional jobs. Moreover, over time, proportionally fewer and fewer workers are able to escape the general stagnation of the economy and the sacrificing of living standards to achieve competitiveness in international trade. As we have shown, only the wages of the best paid 10% of men grew over the last twelve years.

The data also shed light on the current debate over affirmative action. Given that the entry-level wages of college graduates have fallen more among blacks than whites, and that the wages of entry-level, black and white high school graduates have plummeted equally severely, it is difficult to see racial preferences as the cause of wage decline among white workers.

Our leadership must recognize the economy's failure to produce good paying jobs for our educated, white-collar workforce, let alone for the three-fourths of the workforce lacking a college education. Any set of proposed economic policies should be evaluated based on their ability to restore wage growth for the vast majority of the workforce. It is increasingly clear that, by this standard, recent economic policies must be judged harshly.

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Endnotes

1. See Levy and Murnane (1992); Katz and Murphy (1991); Krueger (1991); Borjas, Freeman, and Katz (1991); and Moss and Tilly (1991).

2. This can be seen in the BLS series on hourly compensation (the productivity series discussed in the second section). When this series is deflated by the CPI-C-X2, even the Carter years (1977-1981) showed a 1.5% growth in real hourly compensation.

3. We checked this trend against our CPS measure of hourly wages. In the CPS, hourly wages fell by 2.1% between 1987 and 1991 (full year rather than first quarter). Some of the difference arises because the ECI data are limited to the private sector, where wages have been falling the fastest.

4. This measure, available in the quarterly BLS releases on productivity growth, is based on National Income and Product Account (NIPA) data. The ECI data are from a quarterly survey of employees. The scope of coverage is different, with the NIPA series being somewhat broader.

5. The data on fringe benefits from the NIPA show a modest 0.3% annual rise between 1979 and 1988 and a 6.2% annual rise between 1973 and 1979. In the recent time period fringe benefits grew more *slowly* than average hourly wages (Mishel and Teixeira, 1991, Table 14). Note that the decline in pension costs also dampens the rise in fringe benefit costs.

6. See studies in endnote 1.

7. Wage data from the current population survey confirms these trends, although they show a more moderate decline. CPS major occupation trends show a decline in each occupation and a shift to lower paying occupations.

Appendix A

This appendix provides information on our data sources and computations.

Current Population Survey

We use the Current Population Survey (CPS), which is prepared by the Bureau of the Census for the Bureau of Labor Statistics, as our main source of wage data. Specifically, we analyze computer tapes provided by BLS which have a full year's data on the outgoing rotation groups (ORG) in the CPS. We believe that the CPS ORG files allow for a more timely, up-to-date, and accurate analysis of wage trends than the traditionally used March CPS files (which, for 1991, will not be available until the end of 1992) while keeping within the familiar labor force definitions and concepts employed by the CPS.

The ORG files provide data on those CPS respondents in either the fourth or eighth month of the CPS (i.e., in groups four or eight, out of a total of eight groups). Therefore, in any given month the ORG file represents a quarter of the CPS sample. For a given year, the ORG file is equivalent to three months of CPS's (¼th of 12). For our analysis, we use the full year ORG samples, whose sizes ranged from 155,265 in 1979 to 171,296 in 1991.

Changes in annual or weekly earnings can result from changes in hourly earnings or from more working time (either more hours per week or weeks per year). Our analysis is centered around the hourly wage, which represents the pure price of labor (exclusive of benefits), because we are interested in changing pay levels for the workforce and its subgroups. We do this to be able to clearly distinguish changes in earnings resulting from more (or less) work rather than more (or less) pay. Our analysis, therefore, does not take into account that weekly or annual earnings may have changed because of longer working hours or lesser or greater opportunities for employment.

In our view, the ORG files provide a better source of data for wage analysis than the traditionally used March CPS files. In order to calculate hourly wages from the March CPS, analysts must make calculations using at least two of three retrospective variables: the annual earnings, weeks worked, and usual weekly hours worked in the year prior to the survey. Limiting the March sample to full-time, full-year workers is increasingly unsatisfactory since this is only two-thirds of wage earners and there can be a significant variation of hours worked in this group over time and year by year. In contrast, respondents in the ORG are asked a set of questions about hours worked, weekly wages, and (for workers paid by the hour) hourly wages in the week prior to the survey. In this regard, the data

from the ORG are likely to be more reliable than data from the March CPS. The ORG files are also more current and have a much larger sample size.

Our sub-sample includes all wage and salary workers with valid wage and hours data, whether paid weekly or by the hour. Specifically, in order to be included in our sub-sample, respondents had to meet the following criteria:

- Age 18 to 64;
- Employed in the public or private sector (self-employed were excluded);
- Hours worked within the valid range in the survey (0-99 per week); and,
- Either hourly or weekly wages within the valid survey range (top-coding problems discussed below).

For those who met these criteria, an hourly wage was calculated in the following manner. If a valid hourly wage was reported, that wage was used throughout our analysis. For salaried workers (those who only report a weekly wage), the hourly wage was their weekly wage divided by their hours worked. CPS weights were applied to make the sample nationally representative.

For the survey years 1979, 1987, and 1988, the weekly wage is top-coded at $999.00. Particularly for the later years, this truncation of the wage distribution creates a downward bias in the mean wage. This is especially problematic for comparisons between 1987 and 1988 to later years, when the top code was raised to $1,923.00. Fortunately, the 1987 and 1988 ORG files have an unedited field that allowed us to impose the new higher top-code present in the ORG files for 1989 and beyond. This unedited field in the 1987 and 1988 ORG files includes reported weekly wages up to the new top-code of $1,923. There are no imputations in that data field.

If a weekly wage from the edited field (with the lower top-code) was top-coded, and a valid wage existed in the unedited field, we used the wage with the higher top-code. At the top of the wage distribution, this procedure yielded substantially higher mean hourly wages. For example, in 1988, for males with 6+ years of education beyond high school the mean hourly wage increased by $1.65, from $16.36 to $18.01, when using the field with the higher top-code.

We extended our analysis back to 1973 by pooling the 1973 and 1974 May CPS. The 1974 data were deflated to 1973 dollars using the PCE (1972 base year).

Demographic variables are also used in the analysis. Education refers to years of school completed. Our race variable is comprised of four mutually exclusive categories:

- White, non-Hispanic;
- Black, non-Hispanic;
- Hispanic, any race;
- All others.

Employment Cost Index

The Bureau of Labor Statistics Employment Cost Index (ECI) is an employer based survey that is used to track quarterly trends in the full range of compensation, both wages and benefits, for different groups of workers. The regularly published index, however, holds fixed the composition of jobs by industry and occupation (currently weighted by the 1980 Census' distribution of employment by industry and occupation). Consequently, the ECI does not track actual hourly compensation trends but does track compensation trends for a fixed "market-basket" of jobs. The actual trend in compensation will differ from the ECI trend when there are significant changes in the industry and occupation composition of employment, as there has been in recent years. Fortunately, BLS has been publishing hourly compensation levels (for the first quarter of each year) that are unweighted since 1987. We use these measures to follow hourly wage and benefit trends overall and for white- and blue-collar workers. The importance of using an unweighted series can be seen from the fact that the weighted series grew 4.4% more than the unweighted series from 1987:1 to 1991:1. Or, in other words, an adverse shift of jobs towards lower-paying occupations and industries created a 4.4% drag on wages in those four years that is not captured in the published ECI indices.

It was necessary to estimate the growth of compensation for the year ending in the first quarter of 1992. For the compensation data from the BLS productivity series this was done by annualizing the nominal growth from 1991:1 to 1991:4 and subtracting inflation. A more complicated method was needed for the ECI data because the available ECI data is from the fixed-weight index that has substantially overstated growth relative to a current-weight index (by 5.5% from 1987:1 to 1991:1). The estimated growth of compensation was based on the change in the ECI fixed-weight index from March 1991 to March 1992 less the 3.2% rate of inflation, which gives the real change in fixed-weighted compensation. To adjust to a current weight-index we computed the degree to which employment composition affected compensation growth in the prior year -- the difference between the nominal change in the levels and the fixed-weight index -- and subtracted this factor from the inflation-adjusted fixed-weight changes in the recent year's ECI data. In this calculation, the composition shift reduced hourly compensation growth by 1.5%, about the same per year as in the overall 1987 to 1991 period. These calculations were used for the estimates in Tables 1 and 6. Because the definition of benefits in these tables differs widely from those in the published series (representing only about one-third of the BLS definition) there was no attempt to estimate benefits.

We categorize the compensation data differently than BLS. Wages include base wage and salary payments plus paid leave (vacation, holidays, etc.) and supplemental pay (premium pay such as overtime premiums, shift pay and nonproduction bonuses). This

definition matches a CPS definition as closely as possible and reflects pay that will show up in regular paychecks. BLS defines paid leave and supplemental pay as benefits. Base wages comprises about 73% of total compensation and the expanded definition (include leave and supplemental pay) comprises 82% of total compensation. Benefits are those not legally required, including insurance (life and health) and retirement (pensions, savings and thrift plans). These comprise approximately 9% of total compensation.

Inflation Adjustment

To adjust for inflation we used the CPI-U-X1, which corrects the more commonly used CPI for allegedly overstating inflation in the 1970s (starting in 1983 the two indices are the same). However, in future work (Mishel and Bernstein, 1992) we will adjust for inflation with the Personal Consumption Expenditure index (PCE), 1987 fixed weights. This index is a broad-based, historically consistent measure of the prices of household consumption. However, the Bureau of Economic Analysis is now in the process of incorporating the 1987 weights into the historical index, and this new series was not available for this publication.

Time Period

Our analysis tracks wages from 1979 onward by examining trends from one cyclical peak, 1979, to another, 1989, and then from 1989 to the most recent year, 1991. The post-1989 wage trends are influenced by the cyclical downturn and may partially reflect short-term, recession-induced developments. We believe, however, that the 1989-91 wage trends primarily reflect longer-term trends. For one, the use of hourly wages as our measure moderates the impact of the cycle. Two, the trends we observe from 1989 to 1991 prevailed before the recession. This can be seen in the year-by-year wage trends from 1987 to 1991. Moreover, the only post-1987 year-to-year wage change that would have been adversely affected by the recession is 1990-91 since unemployment rose a mild 0.3% from 1989 to 1990. Note that Appendix Tables B1 and B2 show that the college wage did not fall from 1989 to 1990 (and the entry-level male college wage grew). Plus, average hourly compensation (Table 1) fell the least from 1989 to 1990 (and white-collar compensation grew –Table 6). Thus, it appears that our main findings cannot be attributed to the recession. Nevertheless, our tables break out the 1989-1991 period throughout.

Appendix Table B1
Wages and Employment Share by Education, 1973-91*

	High School Drop Out	High School Graduate	Four Years College	College & 2 Plus Years
		MEN		
Real Hourly Wage ($1991)				
1973	$11.48	$13.50	$18.99	$21.09
1979	11.01	12.77	17.08	19.16
1987	9.35	11.55	17.55	20.85
1988	9.29	11.43	17.38	20.74
1989	9.01	11.15	17.13	21.05
1990	8.70	10.88	17.14	21.20
1991	8.45	10.72	16.69	21.11
Share of Workforce*				
1973	26.6%	37.1%	9.4%	5.6%
1979	24.0	38.2	11.4	6.0
1987	16.4	39.0	14.1	7.3
1989	15.9	38.7	14.2	7.8
1991	14.7	38.5	14.7	7.8
		WOMEN		
Real Hourly Wage ($1991)				
1973	$7.10	$8.66	$12.78	$18.01
1979	7.07	8.34	11.14	14.63
1987	6.44	8.25	12.41	16.14
1988	6.44	8.23	12.42	16.12
1989	6.22	8.10	12.55	16.46
1990	6.20	8.01	12.81	16.34
1991	6.29	8.10	12.65	16.57
Share of Workforce*				
1973	22.2%	46.2%	8.6%	2.9%
1979	19.0	46.6	10.2	3.4
1987	11.7	44.0	13.2	5.2
1989	11.3	42.6	13.8	5.9
1991	10.2	41.8	14.8	6.1

* Numbers do not sum to 100 because those with some college and those with one year of schooling beyond college are not shown.

Appendix Table B2
Entry Level Wages and Employment Shares, 1973-91

	High School Graduates		College Graduates	
	Men	Women	Men	Women
Entry Level Hourly Wage ($1991)*				
1973	$9.75	$7.56	$13.39	$11.54
1979	9.39	7.12	12.57	10.07
1987	7.46	6.32	12.54	10.96
1988	7.39	6.32	12.43	10.94
1989	7.29	6.21	12.27	11.06
1990	7.10	6.06	12.57	11.46
1991	6.90	6.02	11.93	10.75
Shares of Employment**				
1973	38.5%	45.2%	13.3%	15.2%
1979	41.2	43.9	13.7	16.3
1987	38.1	37.1	17.5	20.5
1989	36.4	35.1	17.3	21.1
1991	36.5	34.0	17.6	21.4

* Wage of workers with 1 to 5 years of work experience.
** Share of those with 1 to 5 years of work experience by education level within gender.

We do analyze a number of trends from 1987 onwards. There are several reasons why this particular time period is analyzed. In order to show that the wage trends we identified preceded the onset of the recession it was necessary to examine some pre-recession years. However, for technical reasons we could not examine trends prior to 1987. First, the earliest year for which the ECI level data are available is 1987. Second, the ORG data has a different top-code (and no unedited field with the new top code) in 1986. Therefore, the wages of high-wage workers, such as college-educated workers, are not comparable between 1986 and 1987 (although there is a comparability between 1979 and 1987 because the old top-code in 1979 was hardly binding).

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STUDY FINDS WAGES FELL FOR 80% OF AMERICAN WORKERS BETWEEN 1979 AND 1991

EVEN WAGES OF COLLEGE GRADUATES DROPPED AFTER 1987

Latest Statistics Show Declining Real Wages For American Workforce Before the 1990 Recession; Trend Expected to Continue

Washington, D.C. -- American workers suffered substantial, broad-based reductions in real wages during the final years of the 1980s recovery, *before* the onset of the current recession, and the trend is expected to continue in the coming years, according to a study released today by the Economic Policy Institute.

The EPI study, entitled ***Declining Wages for High School and College Graduates: Pay and Benefits Trends by Education, Gender, Occupation, and State, 1979-91***, examines recent wage trends and concludes that, starting in 1987, average real wages and benefits began falling for groups that had previously enjoyed gains, including college educated and white-collar workers and women with wages near the median. The report found that these new developments coincide with the continuing wage deterioration of those who lost the most in the 1980s: high school graduates, men with less than a college degree (three-fourths of all employed men), lower wage women and blue-collar workers. In fact, the only groups to still enjoy rising wages are men with post-graduate educations and women with at least some college education.

An equally troubling finding is the steady erosion of entry level wages for young workers over the past five years, regardless of gender or college

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education. The study shows that entry level college wages have fallen 3.1% since 1987, driven by a drop among men. Young male college graduates earned 5.1% less in 1991 than they did in 1979, with most of the drop occurring post-1987. The wages of young women college graduates fell 1.9% from 1987 to 1991. Black college graduates have suffered even greater entry level wage losses than their white counterparts since 1979.

The analysis found that the wages of new high school graduates dropped a staggering 26.5% for men and 15.5% for women between 1979 and 1991. During the same twelve years, the wages of black and white high school graduates plummeted by more than 20% for each group.

EPI Research Director Lawrence Mishel and EPI economist Jared Bernstein, authors of the new study, present a current and more accurate analysis of wage trends by examining the wage data in the monthly Current Population Surveys of the Bureau of Labor Statistics (primarily used to track employment and unemployment trends). Mishel and Bernstein note that government publications that provide wage data for 1991 currently rely on the March 1992 (CPS) survey of worker earnings conducted in the prior year (1991). Those findings will not be available until the Fall of 1992. The authors' use of the monthly CPS data provides them with wage information based on larger and more accurate data samples and quicker access to wage data for the last year, in this case, 1991.

Mishel and Bernstein's study reveals that wages fell for the bottom 80% of the workforce between 1979 and 1991. Even high wage workers, those at the 90th percentile, only enjoyed a 2.5% rise in wages. The authors found the overall pattern of wage growth since 1979 has been that the lower the wage group, the more their wages fell, with wages declining by 11.8% at the 20th percentile and by 3.6% at the 80th percentile. The bottom 60% of men suffered at least a 10% wage reduction between 1979 and 1991.

Both men's and women's wages have declined across the board since 1989, the analysis shows. Nearly the entire 5.3% wage gain for median women

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from 1979 to 1989 was reversed by a 4% drop from 1989 to 1991.

One of the few positive wage trends to emerge in the 1980s was the rapid wage gain among more highly paid women. The authors note that the closing of the gender wage gap between the median male and female worker in the last decade is almost entirely the result of men's wages falling rather than women's wages rising.

"American workers are climbing an income ladder that is rotting, and the financial pain now has crept up on college graduates. Our findings depict a workforce that is holding on to decrepit rungs and reaching for even weaker ones," says Mishel.

Some of the specific findings are:

-- Average hourly compensation began falling in 1987, three years prior to the onset of the recession. There has been a decline in hourly compensation of from 2% to 5%. *The Bush administration will be the first one in the post-war period where hourly compensation has declined.*

-- Average wages have fallen 6% since 1987. Fringe benefits have not grown in this time period and, therefore, did not balance out the loss in wages. In 1991 the median hourly wage for men was 2.6% less than in 1989 and 14% less than in 1979.

-- White-collar hourly wages and compensation fell, respectively, 5.1% and 4% from 1987 to 1992.

-- The wages of college graduates have fallen 3.1% between 1987 and 1991, with a 4.9% decline among men and a 1.9% rise among women. Among men, the only education group with any wage growth has been men with advanced degrees (college plus at least two years of post-graduate work, a group comprising just 8% of all men).

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-- The entry level college wage also fell in the 1970s in response to a surplus of college graduates. Among men, new college graduates in 1991 were earning 10.9% less than their counterparts in 1973. In that same time period, the entry level wage for college educated women fell 6.8%.

-- New England was the only region to experience wage growth in the 1980s, but most New England states are now experiencing sizeable wage reductions.

Given that these trends were not caused by the recession, Mishel and Bernstein expect further wage reductions in the coming years as the economy grows slowly and unemployment remains high. The authors conclude, "Our leadership must recognize the economy's failure to produce good paying jobs for our educated, white collar workforce, let alone for the three-fourths of the workforce lacking a college education." They add, "Any set of proposed economic policies should be evaluated by whether they will restore wage growth for the vast majority of the workforce."

Lawrence Mishel is the Research Director of the Economic Policy Institute and the author of various EPI publications, including *The State of Working America, 1990-91 Edition*,(with David Frankel), *Manufacturing Numbers: How Inaccurate Statistics Conceal U.S. Industrial Decline*, and *Shortchanging Education* (with Edith Rasell). He holds a Ph.D. in economics from the University of Wisconsin and has published in a variety of academic and non-academic journals.

Jared Bernstein is an economist at the Economic Policy Institute. He is a co-author of the forthcoming *The State of Working America, 1992-93* edition. Mr. Bernstein is pursuing the Doctor of Social Welfare degree at Columbia University.

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The Economic Policy Institute is a non-profit, non-partisan economic think tank founded in 1986 and supported by grants from foundations, labor unions, corporations, and individuals. Its founders include economic policy experts Lester Thurow, Robert Reich, Robert Kuttner, Barry Bluestone, Ray Marshall, and EPI President Jeff Faux.

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- ***Industrial Policy in Developing Countries;***
- ***The Myth of the Coming Labor Shortage: Jobs, Skills, and Incomes of America's Workforce 2000; and***
- ***The State of Working America, 1990-91.***

To order copies of the study, entitled ***Declining Wages for High School and College Graduates: Pay and Benefits Trends by Education, Gender, Occupation, and State, 1979-91***, contact Public Interest Publications at 1-800-537-9359. Price is $5.00.

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